

ABSTRACT OF THE DISCLOSURE

A system, method, and process that determine and automatically correct registration errors between printed objects and mechanically produced objects using advanced image processing techniques is disclosed. Means are also presented for maintaining all registered functions to within very close tolerances during normal running, with other means for rapidly obtaining initial registration with substantial savings in material waste. The disclosed system and method/process are compatible with the printing and converting industry in which rolls of material are processed by printing a number of colors that require close registration especially in pictorial representation. These roll-fed printing machines are quite versatile and in addition to the printing of any number of colors on both front and back can perform any number of additional operations on the printed web at the same time. Some of these additional operations can be the punching of line holes, scoring, perforation and die cutting all of which impart a specific shape mechanically on the printed web. All of these functions must be initially registered to each other and maintained within close tolerances during normal running conditions. The presently disclosed registration system permits these initial registration procedures to be performed with high accuracy, speed, and across a wide variety of web materials and colors. The system generally applies to any web material (5701) on which register marks (5702) are applied, wherein images of the web are obtained (5703) and image processed (5704) under optional control of an operator interface display (5705), resulting in web press motor control (5706) to affect improved print registration on the web material (5701).